

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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RADIATION MACHINE COMPLIANCE AT DENTAL FACILITIES

“Avoiding the five most common violations”

- **DARKROOM FOG (or white light leakage) TEST*** (recommended every 6 months)
 1. In a dark darkroom with safelight on, lay one film of panoramic/ceph film on top of processor or counter where film is routinely handled.
 2. Cover half of film with film box.
 3. Wait 2 minutes.
 4. Process film.
 5. If you can see a separation of light and dark on the film to show where the box was sitting, you have white light leaking into darkroom.
 6. Repeat test with safelight off to determine how much comes from the safelight.
 7. Repair room and/or safelight light leaks when identified.

* Tests performed by the state inspectors are more sensitive than this test. The above process determines gross fog.
- **FILM BADGES**

Each radiation machine facility **must** have records on site to demonstrate either six (6) consecutive months or four (4) consecutive quarters of personal film badge monitoring. If necessary, contact your monitoring company for copies of your records and keep them on site.

Monitoring must be redone if a facility increases the number of x-ray tubes, relocates, changes ownership or re-arranges the configuration of the radiation machines in the current location.
- **LOGBOOK FOR CHEMISTRY CHANGES, SERVICE, AND CLEANING**

Auto-processor and manual processor chemistry must be replaced per manufacturer's specifications which average every thirty (30) days. Your facility is required to maintain on site a **QUALITY ASSURANCE LOGBOOK** that tracks, as a minimum, cleaning and servicing of your processor and changing of chemicals.
- **X-RAY EQUIPMENT – PM's**

Commonly cited technical deficiencies on x-ray equipment, including low tube potential (or kVp) and timer accuracy, will be identified and corrected with preventative maintenance by a registered service company. The average frequency of manufacturer recommended preventative maintenance is annual. Check your owner's manual. You must maintain copies of any service tickets.
- **UNDERPROCESSING FROM EQUIPMENT – PM's**

Film underprocessing violations often result from technical deficiencies with the processor, such as wrong replenishment rates and improper temperature. These problems will be identified and corrected with preventative maintenance recommended by your autoprocessor's owner's manual. The average frequency of manufacturer recommended preventative maintenance is monthly. You must maintain copies of any service tickets.